

IN THE CLAIMS

*JK1*  
*PP*  
*W*  
*SI*  
*2/3*  
*JK1*  
*PP*  
*W*  
*SI*  
*2/3*

Amend the claims as follows:

36. (currently amended) A process comprising A process for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of

(a) preparing an aqueous mixture containing a said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water; wherein the polymer

- (1) contains ester groups and free carboxylic acid groups,
- (2) is partially solubilized due to the action of the base, and
- (3) has solubilization pH greater than about pH 5.5;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts;

wherein the mixture's pH is less than the polymer's solubilization pH; and

(b) drying the mixture to produce a pesticidal matrix.

39. (currently amended) A process as described in claim 36 39, wherein the polymer is soluble above about pH 7.

41. (previously amended) A process as described in claim 36, wherein the base is a hydroxide compound.
42. (previously amended) A process as described in claim 41, wherein the compound is selected from the group consisting of ammonium hydroxide, an alkali metal hydroxide, an alkaline earth metal hydroxide, and mixtures thereof.
43. (previously amended) A process as described in claim 42, wherein the compound is ammonium hydroxide.
44. (previously amended) A process as described in claim 36, wherein the mixture does not contain the plasticizer, the ultraviolet protector, the activity enhancer, and the glidant.
45. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer.
46. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector.
47. (previously amended) A process as described in claim 36, wherein the mixture contains the activity enhancer.
48. (previously amended) A process as described in claim 36, wherein the mixture contains the glidant.
49. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer and the ultraviolet protector.
50. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer and the activity enhancer.

51. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer and the glidant.
52. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the activity enhancer.
53. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the glidant.
54. (previously amended) A process as described in claim 36, wherein the mixture contains the activity enhancer and the glidant.
55. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, and the activity enhancer.
56. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector, the activity enhancer, and the glidant.
57. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the activity enhancer, and the glidant.
58. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, and the glidant.
59. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, the activity enhancer, and the glidant.
60. (previously amended) A process as described in claim 36, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematicide, a fungicide, a herbicide, and mixtures thereof.

61. (previously amended) A process as described in claim 60, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.
62. Previously withdrawn.
63. (previously amended) A process as described in claim 63, wherein the biological insecticide is a naturally-occurring or a genetically-modified variety of an insect biological control agent.
64. (previously amended) A process as described in claim 63, wherein the biological insecticide is a naturally-occurring or a genetically-modified variety of an insect biological control agent.
65. (previously amended) A process as described in claim 64, wherein the insect biological control agent is selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.
66. (previously amended) A process as described in claim 65, wherein the insect biological control agent is a viral pathogen selected from the group consisting of a DNA virus, a RNA virus, an unclassified insect virus, and mixtures thereof.
67. (previously amended) A process as described in claim 66, wherein the viral pathogen is a DNA virus selected from the group consisting of a double stranded enveloped DNA virus, a double stranded nonenveloped DNA virus, a single stranded DNA virus, and mixtures thereof.
68. (previously amended) A process as described in claim 67, wherein the DNA virus is a double stranded enveloped DNA virus selected from the group consisting of

*Entomopoxvirinae* and *Eubaculovirinae*.

69. (original) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Entomopoxvirinae*.

70. (original) A process as described in claim 69, wherein the double stranded enveloped DNA virus *Entomopoxvirinae* is an entomopox virus (EPV) selected from the group consisting of *Melolontha melolontha* EPV, *Amsacta moorei* EPV, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus lundus* EPV, and mixtures thereof.

71. (previously amended) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Eubaculovirinae*.

72. (previously amended) A process as described in claim 71, wherein the double stranded enveloped DNA virus *Eubaculovirinae* is selected from the group consisting of

(1) a nuclear polyhedrosis virus (NPV) of *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Helicoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8v EGTDEL, V8vEGTDEL-AaLT, AcMNPV E2, AcMNPV L1, AcMNPV V8, AcMNPV Px1, and mixtures thereof; and

(2) a granulosis virus (GV) of *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof.

73. (original) A process as described in claim 67, wherein the DNA virus is a double stranded nonenveloped DNA virus.

74. (original) A process as described in claim 67, wherein DNA virus is a single stranded nonenveloped DNA virus.

75. (original) A process as described in claim 66, wherein the viral pathogen is a RNA virus selected from the group consisting of a double stranded enveloped RNA virus, a double stranded nonenveloped RNA virus, a single stranded RNA virus, and mixtures thereof.

76. (original) A process as described in claim 75, wherein the RNA virus is a double stranded enveloped RNA virus selected from the group consisting of *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof.

77. (original) A process as described in claim 75, wherein the RNA virus is a double stranded nonenveloped RNA virus selected from the group consisting of *Reoviridae*, *Bimaviridae*, and mixtures thereof.

78. (original) A process as described in claim 75, wherein the RNA virus is a single stranded nonenveloped RNA virus selected from the group consisting of *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof ,

81. (previously amended) A process as described in claim 36, wherein

- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;
- (b) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a

poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;

- (c) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;
- (d) the activity enhancer is a stilbene compound and;
- (e) the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

82. (original) A process as described in claim 36, wherein

- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof ;
- (b) The plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
- (c) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

83. (previously amended) A process as described in claim 36, wherein the polymer is a methyl methacrylate/methacrylic acid copolymer.

84. (previously amended) A process as described in claim 36, wherein the mixture is

spray dried.

85. (previously amended) A process as described in claim 36, wherein the matrix has a particle size of less than about 20  $\mu\text{m}$ .
86. (previously amended) A process as described in claim 58, wherein the matrix has a particle size of from about 2  $\mu\text{m}$  to 10  $\mu\text{m}$ .
87. (previously amended) A process as described in claim 36, wherein the matrix comprises, on a percentage-weight-basis of the matrix, from about 1% to about 50% of the pesticidal agent, from about 5% to about 50% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 30% of the ultraviolet protector, from about 0% to about 75% of the activity enhancer, and from about 0% to about 15% of the glidant.
88. (currently amended) A coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, comprising consisting essentially of on a percentage-weight-basis of the matrix, from about 1% to about 50% of said a pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15% of a glidant; wherein the polymer contains ester groups and free carboxylic acid groups, is partially solubilized due to the action of a base, wherein the amount of base added is well below the amount required to fully solubilize the copolymer,

such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts, and wherein the polymer has a solubilization pH greater than about pH 5.5.

89. (previously amended) A pesticidal matrix as described in claim 88, wherein the matrix comprises, on a percentage -weight-basis of the matrix, from about 5% to about 35% of the pesticidal agent, from about 10% to about 45% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 20% of the ultraviolet protector, from about 0% to about 45% of the activity enhancer, and from about 0% to about 10% of the glidant.

90. (original) A pesticidal matrix as described in claim 88, wherein

- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;
- (b) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;
- (c) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;
- (d) the activity enhancer is a stilbene compound; and
- (e) the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

91. (previously amended) A pesticidal matrix as described in claim 90, wherein

- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;
- (b) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
- (c) the stilbene compound is selected from the group consisting of Blacophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

92. (previously amended) A pesticidal matrix as described in claim 88, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematicide, a fungicide, a herbicide, and mixtures thereof.

93. (previously amended) A pesticidal matrix as described in claim 92, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.

95. (previously amended) A pesticidal matrix as described in claim 93, wherein the insecticide is a biological insecticide selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.

96. (previously amended) A pesticidal matrix as described in claim 95, wherein

- (a) the biological insecticide is selected from the group consisting of

- (1) *Melolontha melolontha* EPV, *Amsacata moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus lundus* EPV, and mixtures thereof;
- (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Helicoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof;
- (6) *Picomaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photorhabdus luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the

copolymer are converted to salts; and

wherein the mixture's pH is less than the polymer's solubilization; and

(b) drying the mixture to produce a pesticidal matrix.

97. (previously amended) A pesticidal matrix produced by a process as described in claim 36.

98. (previously amended) A process for improving the residual control of a pest comprising applying to the locus of the pest a pesticidally-effective amount of a pesticidal matrix as described in claim 97.

99. (currently amended) A process comprising for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of

(a) preparing an aqueous mixture containing a said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;

wherein

(A) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;

- (B) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1, 000 to 10,000;
- (C) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof;
- (D) the pesticidal agent is a biological/insecticide selected from the group consisting of
  - (1) *Melolontha melolontha* EPV, *Amsacta moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;
  - (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Helicoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
  - (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
  - (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
  - (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof;
  - (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;

(7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photorhabdus luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and

(8) *Beauveria bassiana*, *Entomophthora spp.*, *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and

wherein the mixture's pH is less than the polymer's solubilization; and

(b) drying the mixture to produce a pesticidal matrix.

100. (previously added) A pesticidal matrix prepared according to the process of claim 99, comprising, on a percentage-by-weight basis of the matrix, from about 1% to about 50% of a pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15 % of a glidant.